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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,456	12/06/2000	Kenneth L. Levy	P0249	1278
23735	7590	10/06/2006	EXAMINER	
DIGIMARC CORPORATION 9405 SW GEMINI DRIVE BEAVERTON, OR 97008			POLTORAK, PIOTR	
			ART UNIT	PAPER NUMBER

2134

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,456

Applicant(s)

LEVY ET AL.

Examiner

Peter Poltorak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/12/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment, and remarks therein, received on 7/27/06 have been entered and carefully considered.
2. The Amendment introduces a new limitation into the originally sole independent claims 1, 7-8, 10 and 17-18, and dependent claims 7, 9, 12 and 19-20.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Amendment

4. In light of the amendments as well as a new drawings received on 6/12/06 on the 35 USC § 112 rejections and objection to drawings cited in the previous Office Action that as a result have been withdrawn.
5. Applicant's arguments have been considered. However, a new art rejection has been provided to cover newly amended claims. As a result the arguments are moot.
6. Claims 1-20 have been examined.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. The claimed invention is directed to non-statutory subject matter. Claims 1-20 are directed towards a method and an apparatus authentication a media signal.

However, the claim language recites essentially manipulation of a media signal with no tangible result.

Claim Rejections - 35 USC § 112

8. Claims 8-9 and 17 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Claims recite are directed towards a detector but recite method steps. As a result it is not clear whether claims 8-9 and 17 are an apparatus or a method claims.

Claim Rejections - 35 USC § 102

9. Claims 1-2, 4-5, 7-9 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang (U.S. Patent No. 6532541).

As per claims 1-2, 7-9 Chang discloses transforming at least a portion of the media signal into a set of frequency coefficients in a frequency domain (col. 3 lines 53-66, col. 5 lines 11-45), adjusting a relationship between selected frequency coefficients to a reference value such that the alteration to the media signal to be detected alters the relationship including computing the relationship as a function of relative magnitude of the selected frequency coefficients, the relative magnitude between the selected coefficients being adjusted to the reference value (col. 7 line 6 col. 8 line 6), the alteration being detected by computing the relationship and comparing the computed relationship with the reference value to determine whether a change in the relative magnitudes has occurred indicating that the alteration has occurred (col. 8 lines 6-67).

10. As per claims 4-5, although Chang does not disclose detecting alteration by comparing the computed ratio between the selected coefficient and the reference value; however, there always inherently exists a ratio between a selected coefficient and one or more neighboring coefficient.

11. Claims 10-11 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No. 6532541).

Chang discloses transforming at least a portion of the media signal into a set of frequency coefficients in a frequency domain and evaluating a media signal at selected frequency as discussed above.

12. As per claim 10-11 and 17-19 Chang does not explicitly teach that evaluating of the media signal includes evaluating signal peaks at selected frequency locations of the media signal.

However, not only Chang does not prohibits directing its invention to signal peaks of the media signal, but also operation on peaks of the media signal in watermark embedding and detection is well known in the art of data hiding (e.g. U.S. Patent No. 6665420) and modification and consequently evaluating signal peaks at selected frequency locations of the media signal would have been obvious given the benefit of the fact that the most significant bits of the low frequency coefficients are most likely to survive distortions like recompression, etc.

13. As per claims 15-16 Chang does not disclose that the media signal is an audio/video signal. Official Notice is taken that it is old and well-known practice to utilize watermark signals in audio/video signals. It would have been obvious to one of

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ordinary skill in the art at the time of applicant's invention to extend Chang's invention into audio/video signals given the benefit of authenticating audio/video signals.

14. Claims 6, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No. 6532541) in view of Fridrich (Fridrich 1: Jiri Fridrich, "Combining low-frequency and spread spectrum watermarking", Proc. SPIE Int. Symposium on Optical Science, Engineering, and Instrumentations, San Diego, July 1998 or alternatively Fridrich2: Jiri Fridrich, "Image Watermarking for tamper detection").

Chang's invention has been discussed above. Chang does not explicitly disclose embedding a calibration signal into the media signal.

15. Fredrich discloses embedding a calibration signal into a media signal (Fridrich 1, Introduction and Fridrich 2, "Improvements and future directions"). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to embed a calibration signal into a media signal as taught by Fredrich. One of ordinary skill in the art would have been motivated to perform such a modification in order to register the examined image after a combination of a shift, rotation, and change of scale.

16. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claims 6, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (U.S. Patent No. 6532541) in view of Wolfgang (U.S. Patent No. 6625295).

Chang in view of Fridrich teach method of authenticating a media signal as discussed above.

17. Chang in view of Fridrich do not teach the alteration to be detected is scanning, printing or photocopying the image signal.

Wolfgang et al. teach that information such as copyrighted image for which protection is sought could be placed onto computer system through scanning (*Wolfgang et al.*, pg. 5 lines 48-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate detection of alteration due to scanning, printing or photocopying the image signal Chang invention to scanned images as taught by Wolfgang One of ordinary skill in the art would have been motivated to perform such a modification in order to authenticate printed images.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

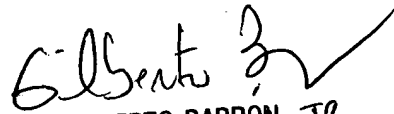
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Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



9/27/06



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